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Please write a detailed statement of search topic. Describe specifically as possible the subject matter to be searched. Define any terms that may have a special meaning. Give examples or relevant citations, authors, keywords, etc., if known. For sequences, please attach a copy of the sequence. You may include a copy of the broadest and/or most relevant claim(s).

1442
1418-28
38
32.85
236.46

STAFF USE ONLY

Date completed: 3/13

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Terminal time: 240

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CPU time: _____

Total time: _____

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Type of Search

_____ N.A. Sequence

_____ A.A. Sequence

_____ Structure

_____ Bibliographic

Vendors

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_____ STN

_____ Dialog

_____ APS

_____ Geninfo

_____ SDC

_____ DARC/Questel

_____ Other

FILE 'REGISTRY' ENTERED AT 14:18:15 ON 03 MAR 1999
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STRUCTURE FILE UPDATES: 26 FEB 99 HIGHEST RN 220057-69-2
DICTIONARY FILE UPDATES: 2 MAR 99 HIGHEST RN 220094-18-2

TSCA INFORMATION NOW CURRENT THROUGH JUNE 29, 1998

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

=> s ?hyaluronic acid?/cns

313 ?HYALURONIC/CNS
4380892 ACID?/CNS
L1 313 ?HYALURONIC ACID?/CNS
((?HYALURONIC(W)ACID?)/CNS)

=> s (hydrochloric acid or sulfuric acid or nitric acid or orthophosphoric
acid or oxalic acid)/cn

1 HYDROCHLORIC ACID/CN
1 SULFURIC ACID/CN
1 NITRIC ACID/CN

1 ORTHOPHOSPHORIC ACID/CN
1 OXALIC ACID/CN
L2 5 (HYDROCHLORIC ACID OR SULFURIC ACID OR NITRIC ACID OR
ORTHOPHOSP HORIC ACID OR OXALIC ACID)/CN

=> s ?polysaccharide?/cns

L3 448 ?POLYSACCHARIDE?/CNS

=> s sodium hyaluronate/cn

L4 1 SODIUM HYALURONATE/CN

=> fil medline,caplus,biosis,embase,wpids

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=> s (hyaluronic acid? or l1)(l)alkali metal salt

L5 0 FILE MEDLINE
L6 8 FILE CAPLUS
L7 0 FILE BIOSIS
L8 0 FILE EMBASE
'CNS' IS NOT A VALID FIELD CODE
L9 12 FILE WPIDS

TOTAL FOR ALL FILES

L10 20 (HYALURONIC ACID? OR L1)(L) ALKALI METAL SALT

=> s (hydrochloric acid or sulfuric acid or nitric acid or orthophosphoric acid or oxalic acid or l2) and l10

L11 0 FILE MEDLINE
L12 1 FILE CAPLUS
L13 0 FILE BIOSIS
L14 0 FILE EMBASE
'CN' IS NOT A VALID FIELD CODE
L15 0 FILE WPIDS

TOTAL FOR ALL FILES

L16 1 (HYDROCHLORIC ACID OR SULFURIC ACID OR NITRIC ACID OR
ORTHOPHOSP

HORIC ACID OR OXALIC ACID OR L2) AND L10

=>

=> d cbib abs

L16 ANSWER 1 OF 1 CAPLUS COPYRIGHT 1999 ACS

1998:509205 Document No. 129:136434 Preparation and viscosity of free
polysaccharide acids and their salts as coating agents. Beavers,
Ellington M.; Hoekstra, Djoerd; Su, Yee San; Willard, Nicole (Biocoat
Inc., USA). PCT Int. Appl. WO 9831695 A1 19980723, 20 pp. DESIGNATED
STATES: W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES,
FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, LK, LR, LT, LU, LV, MD, MG, MN,
MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA,
UG, UZ, VN; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR,
GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG.
(English). CODEN: PIXXD2. APPLICATION: WO 98-US210 19980114. PRIORITY:
US 97-781308 19970115.

AB A free acid form of a polysaccharide is produced from its **alkali**
-metal salt. In one example, free-form
hyaluronic acid is produced by prepg. a soln. of an
alkali-metal salt of hyaluronic
acid, dispersing into the soln. a strong acid, enclosing the
dispersion within a semi-permeable membrane, dialyzing the dispersion in
water, and harvesting the product from within the membrane. The strong
acid can be **hydrochloric acid, sulfuric**
acid, nitric acid, orthophosphoric
acid, or oxalic acid, for example. The
semi-permeable membrane has a mol. wt. cut-off large enough to pass the
strong acid, and preferably much larger. The invention provides a simple
and economical way to produce a product which is not com. available.

=> s (hyaluronic acid? or l1)(l)alkali metal salt and (l3 or polysaccharide?)

L17 0 FILE MEDLINE

L18 8 FILE CAPLUS

L19 0 FILE BIOSIS

L20 0 FILE EMBASE

'CNS' IS NOT A VALID FIELD CODE

L21 4 FILE WPIDS

TOTAL FOR ALL FILES

L22 12 (HYALURONIC ACID? OR L1)(L) ALKALI METAL SALT AND (L3 OR
POLYSAC
CHARIDE?)

=> s l22 not l16

L23 0 FILE MEDLINE

L24 7 FILE CAPLUS

L25 0 FILE BIOSIS

L26 0 FILE EMBASE

L27 4 FILE WPIDS

TOTAL FOR ALL FILES

L28 11 L22 NOT L16

=> dup rem 128

PROCESSING COMPLETED FOR L28

L29 11 DUP REM L28 (0 DUPLICATES REMOVED)

=> d cbib abs 1-11

L29 ANSWER 1 OF 11 CAPLUS COPYRIGHT 1999 ACS

1998:512569 Document No. 129:150171 Water-thinned fluorescent inks applicable to thermal recording paper and pressure-sensitive paper. Nishikawa, Takeo; Takahashi, Hiroshi; Sato, Naoki (Pentel Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10212438 A2 19980811 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 97-29560 19970129.

AB The inks contain at least colored resin particles as fluorescent pigments,

alkali metal salts of hyaluronic

acid, and H₂O. Thus, a marking pen filled with an aq. ink contg. Lumikol NKW 3004 35.0, Na hyaluronate 3.0, and sorbitan 18.0% showed good pen-tip drying resistance and gave markings on thermal recording paper with no discoloration and on letters printed on pressure-sensitive paper without erasing the letters.

L29 ANSWER 2 OF 11 CAPLUS COPYRIGHT 1999 ACS

1998:689262 Document No. 129:277615 Extraction of hyaluronic acid via chitosan complex. Loth, Fritz (Fraunhofer-Gesellschaft zur Foerderung der

angewandten Forschung e.V., Germany). Ger. Offen. DE 19712931 A1 19981001, 4 pp. (German). CODEN: GWXXBX. APPLICATION: DE 97-19712931 19970327.

AB **Hyaluronic acid** (I) is extd. from fermn. solns. and liquors as polyelectrolyte complex with chitosan. The fermn. solns. and liquors contg. I are mixed with aq. solns. of chitosan salts, preferably chitosan acetate, to ppt. I-chitosan complex which is sepd., treated with dild. aq. alkali soln. at ambient temp., insol. chitosan is sepd. and **alkali metal salts** of I pptd. with EtOH or Me₂CHOH.

L29 ANSWER 3 OF 11 WPIDS COPYRIGHT 1999 DERWENT INFORMATION LTD

AN 98-414030 [35] WPIDS

AB WO 9831695 A UPAB: 980904

Conversion of **alkali metal salts** of

hyaluronic acid to a free acid form of

hyaluronic acid comprises (a) dissolving the salt in water to form a solution; (b) dispersing an acid capable of producing pH 2.2 or lower at concentrations in water at 25 deg. C of 0.01 Normal to 1 Normal in the solution; (c) enclosing the solution within a

semi-permeable

membrane with a molecular weight cut-off (MCWO) at least large enough to pass the acid; (d) dialysing the dispersion in water while still

enclosed;

and (e) harvesting free **hyaluronic acid** from within the semi-permeable membrane.

Also claimed is conversion of a **polysaccharide** salt to a free acid form of **polysaccharide**.

USE - Method is used to convert **alkali metal**

salts of hyaluronic acid or salts of

polysaccharides, e.g. chondroitin sulphate, heparin or carboxymethylcellulose, into their free form (claimed). It may be used to produce components used in making hydrophilic, lubricious and durable

coatings for devices intended to be placed permanently or temporarily in the body, e.g. for bilaminar coatings to be used on catheters, guide wires, prosthetic devices and intra-ocular lenses.

ADVANTAGE - Method provides a simple and economical way to produce a product that is not commercially available.
Dwg.0/0

L29 ANSWER 4 OF 11 WPIDS COPYRIGHT 1999 DERWENT INFORMATION LTD
AN 96-439477 [44] WPIDS
AB JP08217680 A UPAB: 961104

A lubricant for preventing AIDS infection comprises a substance having an anti-HIV action. Pref. substance having an anti-HIV action is acidic **polysaccharides**, esp. carrageenan. The lubricant comprises a water-soluble polymer including an acidic **polysaccharide**, a polyhydric alcohol and a perspective and has a viscosity of 5-10,000 cps. A part of the water-soluble polymer is replaced with **hyaluronic acid** or its **alkali metal salt**.

ADVANTAGE - The lubricant helps to prevent AIDS infection by applying to vagina.

In an example, carrageenan (0.5 wt.%), propylene glycol (9.0 wt.%), glycerol (15.0 wt.%), Macrogoal 400 (14.0 wt.%), sodium hyaluronate (20.0 wt.%), methylparaben (0.2 wt.%), perfume (0.05 wt.%) and purified water (41.25 wt.%) were mixed to give a lubricant (viscosity: 5,500-6,000 gps).
Dwg.0/0

L29 ANSWER 5 OF 11 WPIDS COPYRIGHT 1999 DERWENT INFORMATION LTD
AN 96-329426 [33] WPIDS
AB JP08151328 A UPAB: 960823

Lubricant contains anti-Aids virus substance. More specifically, the lubricant comprises acid **polysaccharide**, polyalcohol, antiseptics and water-soluble polymer, with viscosity of 5 to 3000 cst.

Anti-AIDS virus substance is pref. acidic **polysaccharide** such as carrageenan. The water-soluble polymer is partially or completely substituted with **hyaluronic acid** or its **alkali metal salts** is used for the prepn.

USE/ADVANTAGE - The lubricant is for prevention of AIDS infection. The lubricant is applied to the vagina and prevents AIDS infection and coitus pain.

EXAMPLE - The lubricant comprised 0.30 wt.% of acidic **polysaccharide** from Hijikia (KM-101), 10.30 wt.% of propylene glycol, 39.70 wt. % of glycerin, 0.03 wt. % of methyl paraben.0.01 wt.% of propyl paraben. 0.20 wt.% of sodium alginate and 49.46 wt.% of distilled water. The lubricant is aq. viscous liquid with viscosity of 5 to 600 cst.
Dwg.0/0

L29 ANSWER 6 OF 11 WPIDS COPYRIGHT 1999 DERWENT INFORMATION LTD
AN 96-167424 [17] WPIDS
AB JP08048999 A UPAB: 960428

Detergent compsn. contains a soap (**alkali metal salt** of fatty acid) and **polysaccharide(s)** contg. uronic acid.

Pref. the content of the acid in the **polysaccharide** is 1-70 wt. %. Pref. the acid is D-glucuronic, D-galacturonic and/or D-mannuronic acid. Pref. the **polysaccharide** is ghatti gum and at least 1 of gum arabic and water-soluble hemicellulose extracted from soybeans.

Pref. fatty acids for the substrate soap include mixed fatty acids from beef tallow and coconut, palm, palm kernel and soybean oils and lauric, myristic, palmitic, stearic, oleic, linoleic and linolenic acids.

Polysaccharides include xanthan gum, caraya gum, alginic acid, **hyaluronic acid**, pectin, gellan gum, almond gum, grapefruit gum and cacao gum.

USE/ADVANTAGE - The compsn. is used for washing laundry. The biodegradable compsn. controls formation of insol. lime soap without impairing the original detergency of the substrate soap, disperses the lime soap and prevent associated problems, such as yellowing of clothes, malodour clogging of drain pipes and soiling of sinks and baths.
Dwg.0/0

L29 ANSWER 7 OF 11 CAPLUS COPYRIGHT 1999 ACS

1995:267276 Document No. 122:31339 Method for producing 5-hydroxy-2-pyridinecarboxylic acid. Natsume, Midori; Kamo, Yoshihiro; Hirayama, Masao (Meiji Seika Co, Japan). Jpn. Kokai Tokkyo Koho JP 06256310 A2 19940913 Heisei, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 93-72766 19930309.

AB 5-Hydroxy-2-pyridinecarboxylic acid (I) is prepd. by reaction of ammonium salt with a mixt. of sugars obtained by decompn. of uronic acid-contg. carbohydrates. The preferred uronic acid-contg. carbohydrate contains at least one of pectic acid, pectin, alginic acid, **hyaluronic acid**, chondroitin sulfate, and **alkali metal salts** thereof. The uronic acids are preferably glucuronic acid, galacturonic acid, mannuronic acid, gluronic acid, iduronic acid, and **alkali metal salts** thereof. A mixt. of sugars contains at least one decompn. product of uronic acid optionally having a 4,5-unsatd. bond obtained by reaction of an uronic acid-contg. a carbohydrate with an enzyme. I is applied to plants or soil to induce or stimulate stress resistance mechanism of plants against environment, enhance the resistance of plants against environmental stress, thereby stabilize the growing of agricultural and horticultural crops, and increase productivity. Thus, 10.0 g pectin was dissolved in 200 mL H2O followed by adding 2.0 times. 104 unit pectinase and after stirring the resulting mixt. at 30.degree. for 18 h, 5.75 g NH4Cl was added followed by stirring the resulting mixt. at 93.degree. for 24 h to give 1.2 I.

L29 ANSWER 8 OF 11 CAPLUS COPYRIGHT 1999 ACS

1993:525275 Document No. 119:125275 Water-insoluble biocompatible hyaluronate and polyion complex and method of making the same. Uragami, Tadashi; Tanaka, Yoshiaki; Nishida, Shinji (Lignyte Co., Ltd., Japan). Pat. Specif. (Aust.) AU 636544 B1 19930429, 39 pp. (English). CODEN: ALXXAP. APPLICATION: AU 92-29626 19921125. PRIORITY: JP 91-312236 19911127.

AB The title complex is prepd. by reacting an **alkali metal salt of hyaluronic acid** with a high-mol. compd. having amino or imino groups in the presence of an org. acid as a material for an artificial internal organ (no data). Thus, Na hyaluronate and chitosan were reacted in a formic acid soln. to give a polyion complex, from which a water-insol. film was obtained.

L29 ANSWER 9 OF 11 CAPLUS COPYRIGHT 1999 ACS

1991:22485 Document No. 114:22485 Manufacture of hyaluronic acid alkali salts having low degree of polymerization with Streptococcus or Pasteurella. Sugitani, Hiromi; Sugitani, Tomohiro; Nozawa, Takashi;

Hara, Minoru (Japan). Jpn. Kokai Tokkyo Koho JP 02245193 A2 19900928 Heisei, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 89-66340 19890320.

AB Hyaluronic acid (I) alkali salts with low d.p. are manufd. by culture of Streptococcus or Pasteurella followed by treatment of the resultant I alkali salts with Cl-contg. oxidizing agents. S. zooepidemicus NCTC 7023

was cultured in a medium contg. glucose, peptone, yeast ext., and MgSO4
at 35.degree. and pH 6.9-7.1 for 32 h to give 2.3 L soln. contg. 4.2 g I. I
was crystd. with cetylpyridinium chloride from a half of the soln.,
converted into Na salt by aq. NaCl, and treated with 140 ppm (as Cl)
NaClO
in H2O at 30.degree. for 45 min to give 1.98 g I Na salt with mol. wt.
510,000, while 2.05 g I Na salt with mol. wt. 2,530,000 was isolated from
another half of the soln. without oxidn.

L29 ANSWER 10 OF 11 CAPLUS COPYRIGHT 1999 ACS
1991:88722 Document No. 114:88722 Pharmaceutical preparation based on
hyaluronic acid alkali metal

salt complexes with multivalent metals. Galatik, Antonin; Kubena,
Karel; Blazej, Anton (Czech.). Czech. CS 264719 B1 19891215, 4 pp.
(Slovak). CODEN: CZXXA9. APPLICATION: CS 87-1523 19870306.
AB Pharmaceutical solns. for use in human and veterinary medicine contain
0.02-3 wt.% of complexes of **hyaluronic acid**
alkali metal salts with Mg2+, Ca2+, Zn2+,
Ba2+, Al3+, Cu2+, Zr4+, Cr3+, and/or Fe3+, at 0.1-5 mol hyaluronate to
1-25 mol coordination cation. Thus, a soln. for use in eye surgery
contained Na hyaluronate 10, MgCl2.6 H2O 0.2, NaCl 8.5, Na2HPO4.2 H2O
0.28, and NaH2PO4 0.04 mg.

L29 ANSWER 11 OF 11 CAPLUS COPYRIGHT 1999 ACS
1985:137591 Document No. 102:137591 Skin conditioners containing hyaluronic
acid salts. (Kanebo, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 59219209 A2
19841210 Showa, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP
83-94466 19830528.

AB Skin conditioners contain 0.02 .apprx.5.0 wt.% **hyaluronic**
acid alkali metal salts, alkali
earth metal salts, alkanolamine salts, or basic amino acid salts whose
mol. wts. are in a range of 104 .apprx.105, the av. mol. wt. being 2
.times. 104 .apprx.8 .times. 104. A skin lotion comprises EtOH 5,
sorbitol 4, Na succinate 0.1, methylparaben 0.05, Na hyaluronate [**9067-32-7**]
(mol. wt. 3 .times. 104 .apprx.8 .times. 104; av. mol.
wt. 6 .times. 104) 0.2, succinic acid 0.01, perfume 0.2, and H2O to 100
parts.

=> s (hyaluronic acid? or l1 or l4 or sodium hyaluronate) and (polysaccharide
or l3)

L30 841 FILE MEDLINE
L31 3426 FILE CAPLUS
L32 1426 FILE BIOSIS
L33 5561 FILE EMBASE
'CNS' IS NOT A VALID FIELD CODE
'CN' IS NOT A VALID FIELD CODE
L34 237 FILE WPIDS

TOTAL FOR ALL FILES

L35 11491 (HYALURONIC ACID? OR L1 OR L4 OR SODIUM HYALURONATE) AND
(POLYSA
CCHARIDE OR L3)

=> s l35 and semi permeable

L36 0 FILE MEDLINE
L37 3 FILE CAPLUS
L38 0 FILE BIOSIS
L39 1 FILE EMBASE

L40 1 FILE WPIDS

TOTAL FOR ALL FILES

L41 5 L35 AND SEMI PERMEABLE

=> dup rem l41

PROCESSING COMPLETED FOR L41

L42 4 DUP REM L41 (1 DUPLICATE REMOVED)

=> d cbib abs 1-4;s l35 and (beavers e? or hoekstra d? or su y? or willard n?)/au,in

L42 ANSWER 1 OF 4 CAPLUS COPYRIGHT 1999 ACS DUPLICATE 1
1998:509205 Document No. 129:136434 Preparation and viscosity of free **polysaccharide** acids and their salts as coating agents. Beavers, Ellington M.; Hoekstra, Djoerd; Su, Yee San; Willard, Nicole (Biocoat Inc., USA). PCT Int. Appl. WO 9831695 A1 19980723, 20 pp. DESIGNATED STATES: W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 98-US210 19980114. PRIORITY: US 97-781308 19970115.

AB A free acid form of a **polysaccharide** is produced from its alkali-metal salt. In one example, free-form **hyaluronic acid** is produced by prepg. a soln. of an alkali-metal salt of **hyaluronic acid**, dispersing into the soln. a strong acid, enclosing the dispersion within a **semi-permeable** membrane, dialyzing the dispersion in water, and harvesting the product from within the membrane. The strong acid can be hydrochloric acid, sulfuric acid, nitric acid, orthophosphoric acid, or oxalic acid, for example. The **semi-permeable** membrane has a mol. wt. cut-off large enough to pass the strong acid, and preferably much larger. The invention provides a simple and economical way to produce a product which is not com. available.

L42 ANSWER 2 OF 4 CAPLUS COPYRIGHT 1999 ACS
1998:527613 Viability and function of encapsulated islet cells in a **polysaccharide** hydrogel microcapsule.. Pfister-Serres, Anné; Smeds, Kimberly A.; Hatchell, Diane L.; Saloupis, Peter; Grinstaff, Mark W. (Department Chemistry, Duke University, Durham, NC, 27708, USA). Book of Abstracts, 216th ACS National Meeting, Boston, August 23-27, PMSE-214. American Chemical Society: Washington, D. C. (English) 1998. CODEN: 66KYA2.

AB The entrapment of functional insulin producing cells in an immunoprotective and **semi-permeable** polymeric system with subsequent transplantation is a promising treatment for diabetes. Alginate microcapsules are one system that have been extensively studied for islet cell (the cell mass contg. the insulin producing beta cells) encapsulation and transplantation. Even though this microcapsule system possess a no. of important attributes, the microcapsules however, are not stable over long periods and it is known that mannuronic acid (one of the chem. components of alginate) invokes an immune response. We have developed a modified **hyaluronic acid** (HA) biopolymer that can be photocrosslinked to form a stable covalently crosslinked microcapsule. We have also isolated and cultured rat and canine islets of Langerhans for study. Using a coaxial jet head microcapsule generator, we

have encapsulated the islet cells and are monitoring their in vitro function and survival over time.

L42 ANSWER 3 OF 4 EMBASE COPYRIGHT 1999 ELSEVIER SCI. B.V.

95146830 EMBASE Document No.: 1995146830. Reduced wound contraction and scar formation in punch biopsy wounds. Native collagen dermal substitutes. A clinical study. De Vries H.J.C.; Zeegelaar J.E.; Middelkoop E.; Gijsbers G.; Van Marle J.; Wildevuur C.H.R.; Westerhof W.. Dept. of Dermatology, G5-North 1, Academic Medical Centre, University of Amsterdam,

Meibergdreef

9,1105 AZ Amsterdam, Netherlands. British Journal of Dermatology 132/5 (690-697) 1995.

ISSN: 0007-0963. CODEN: BJDEAZ. Pub. Country: United Kingdom. Language: English. Summary Language: English.

AB In full-thickness skin wounds dermal regeneration usually fails, resulting

by in scar formation and wound contraction. We studied dermal regeneration

implantation of collagenous matrices in a human punch biopsy wound model. Matrices were made of native bovine collagen I fibres, and either **hyaluronic acid**, fibronectin, or elastin was added.

Matrices were placed in 6-mm punch biopsy holes in seven patients (biopsies were used for the grafting of leg ulcers), and covered with a protective **semi-permeable** polyether methane membrane.

Histology, wound contraction and dermal architecture were studied. Dermal architecture was evaluated using a recently developed laser scatter technique. All collagen matrices showed a tendency to reduce wound contraction, compared with control wounds; elastin- and fibronectin-treated matrices showed significantly less contraction than control wounds. Only the addition of elastin had a clear beneficial

effect

on dermal architecture; collagen bundles were more randomly organized, compared with control wounds, and wounds treated with collagen matrices coated with fibronectin or **hyaluronic acid**, or without coating. We conclude that the punch biopsy wound model provides important information on dermal regeneration in humans. Native collagen matrices with elastin contributed to dermal regeneration and reduced wound contraction, in contrast with matrices coated with fibronectin or **hyaluronic acid**, or without coating. Future clinical

studies of large-area, full-thickness wounds will be required to establish

their clinical relevance for leg ulcer and burn treatment.

L42 ANSWER 4 OF 4 CAPLUS COPYRIGHT 1999 ACS

1991:542311 Document No. 115:142311 Homologous guluronic acid alginate coating composition for implantation and transplantation and method of using same. Skjak-Braek, Gudmund; Smidsrod, Olav; Espevik, Terje; Otterlei, Marit; Soon-Shiong, Patrick (Trancel Corp., USA). PCT Int. Appl. WO 9107951 A1 19910613, 33 pp. DESIGNATED STATES: W: AT, FI, JP, KR, NO; RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE. (English). CODEN: PIXXD2. APPLICATION: WO 90-US7108 19901204.

PRIORITY:

US 89-446462 19891205.

AB A transplantation or implantation compn. which provokes a reduced immune response comprises a material encapsulated within a phys. **semi-permeable** barrier consists of alginate comprising substantially of L-guluronic acid with minor amts. of D-mannuronic acid.

Lipopolysaccharides in alginate was removed by using a combination of polymyxin B-Sepharose 4B affinity binding and endotoxin-protein dissocn. with the dialyzable surfactant octyl-.beta.-D-glucopyranoside. Cultured rat islets of Langerhans were suspended uniformly in Na alginate in

saline

soln. and spherical droplets contg. islets were produced by extrusion through a needle and collected in CaCl₂. The alginate droplets were incubated in polylysine; then the polylysine capsules were sepd. and incubated in Na alginate to permit the formation of an outer alginate membrane on the initial polylysine membrane. The resulting microcapsules were washed with saline soln. to reliquify the inner Ca alginate. The microcapsules were perfectly spherical with diam. of 700.µm and wall thicknesses of 5.µm and each contained 1-2 viable islets.

'IN' IS NOT A VALID FIELD CODE
L43 1 FILE MEDLINE
L44 4 FILE CAPLUS
L45 2 FILE BIOSIS
'IN' IS NOT A VALID FIELD CODE
L46 2 FILE EMBASE
L47 2 FILE WPIDS

TOTAL FOR ALL FILES

L48 11 L35 AND (BEAVERS E? OR HOEKSTRA D? OR SU Y? OR WILLARD
N?)/AU,IN

=> dup rem 48

ENTER L# LIST OR (END):L48.

'48' IS NOT VALID. VALID FILE NAMES ARE 'MEDLINE, CAPLUS, BIOSIS, EMBASE, WPIDS'

You have entered a file name of duplicates to keep that is not referenced by any of the L#s specified for this DUPLICATE command. The file names of duplicates that can be kept are listed above. Please enter one of these file names.

=> dup rem 148

PROCESSING COMPLETED FOR L48

L49 5 DUP REM L48 (6 DUPLICATES REMOVED)

=> d cbib abs 1-5;dis his

L49 ANSWER 1 OF 5 CAPLUS COPYRIGHT 1999 ACS DUPLICATE 1
1998:509205 Document No. 129:136434 Preparation and viscosity of free
polysaccharide acids and their salts as coating agents.
Beavers, Ellington M.; Hoekstra, Djoerd; Su, Yee San; Willard,
Nicole (Biocoat Inc., USA). PCT Int. Appl. WO 9831695 A1 19980723, 20

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EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, LK, LR, LT, LU, LV, MD,
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FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG.
(English). CODEN: PIXXD2. APPLICATION: WO 98-US210 19980114. PRIORITY:
US 97-781308 19970115.

AB A free acid form of a **polysaccharide** is produced from its
alkali-metal salt. In one example, free-form **hyaluronic**
acid is produced by prepg. a soln. of an alkali-metal salt of
hyaluronic acid, dispersing into the soln. a strong
acid, enclosing the dispersion within a semi-permeable membrane,
dialyzing

the dispersion in water, and harvesting the product from within the membrane. The strong acid can be hydrochloric acid, sulfuric acid, nitric acid, orthophosphoric acid, or oxalic acid, for example. The semi-permeable membrane has a mol. wt. cut-off large enough to pass the strong acid, and preferably much larger. The invention provides a simple and economical way to produce a product which is not com. available.

L49 ANSWER 2 OF 5 CAPLUS COPYRIGHT 1999 ACS DUPLICATE 2
1994:638273 Document No. 121:238273 Thermal stability of **sodium hyaluronate** in aqueous solution. Lowry, Karen M.; **Beavers, Ellington M.** (Biocoat, Inc., Washington, PA, 19034, USA). J. Biomed. Mater. Res., 28(10), 1239-44 (English) 1994. CODEN: JBMRBG. ISSN: 0021-9304.

AB Since its identification 60 yr ago as a ubiquitous component of the body of mammals, **hyaluronic acid** has been widely studied, primarily in the fields of medicine and biol. On the other hand, this study deals with **hyaluronic acid** as a chem. intermediate in the synthesis of novel lubricious coatings, and in this connection data were needed on the stability of aq. solns. of the polymer over 25-100.degree.. The investigation reported here provides that information, obtained by exposing samples in sealed ampuls in baths at controlled temps. and detg. the resulting change in viscosity of the solns. Data of this kind have not previously been reported on **sodium hyaluronate** freed from the proteins and other orgs. normally assocd. with the polymer in its natural environment.

L49 ANSWER 3 OF 5 MEDLINE DUPLICATE 3
95074189 Document Number: 95074189. Resistance of hyaluronate coatings to hyaluronidase. Lowry K M; **Beavers E M.** (Biocoat, Inc, Ft. Washington, Pennsylvania 19034.) JOURNAL OF BIOMEDICAL MATERIALS RESEARCH,

(1994 Aug) 28 (8) 861-4. Journal code: HJJ. ISSN: 0021-9304. Pub. country: United States. Language: English.

AB Mucopolysaccharides such as **hyaluronic acid** and its salts are essential components of new hydrophilic bilaminar coatings being

developed in these laboratories. The **polysaccharide** top-coat is covalently bonded by periodic urethane links to a substrate copolymer which in this study has been coated on polymethyl methacrylate slabs.

Such coated slabs were exposed for up to 28 months to three levels of hyaluronidase in phosphate buffered saline at 37 degrees C, the enzyme concentration ranging from that normally present in human serum to 60 times that level. The coating survived without damage. The rationale proposed is that the enzyme is unable to position its active site with

the immobilized hyaluronate molecule and is therefore unable to catalyze the hydrolysis.

L49 ANSWER 4 OF 5 CAPLUS COPYRIGHT 1999 ACS
1986:425901 Document No. 105:25901 Hydrophilic coatings for plastics. Halpern, Gregory; Campbell, Charles; **Beavers, Ellington M.**; Chen, Huk Y. (Universal High Technologies, USA). Ger. Offen. DE 3529758 A1 19860227, 34 pp. (German). CODEN: GWXXBX. APPLICATION: DE 85-3529758

19850820. PRIORITY: US 84-643598 19840823.

AB The title coatings, with high strength and modulus and useful on plastic lenses, surgical materials, etc., consist of aq. solns. of mucopolysaccharides contg. H2O-miscible org. solvents and crosslinked and fixed by aliph. polyisocyanates. Thus, a Plexiglas sheet was coated with

200 mil 0.5% aq. Na hyaluronate, left overnight at 20.degree. and 50% rel. humidity, dipped in MeOH contg. 2% N-methylpyrrolidone, dried, sprayed with a 0.1% MEK soln. of Desmodur N (aliph. polyisocyanate) contg. Bu₂Sn dilaurate, and left overnight at room temp. to give a firm, nontacky film showing no change after 2 wk in 0.9% NaCl, and which could not be rubbed off by finger pressure after such treatment.

L49 ANSWER 5 OF 5 WPIDS COPYRIGHT 1999 DERWENT INFORMATION LTD

AN 86-057517 [09] WPIDS

AB GB 2163436 A UPAB: 930922

A process for treating a hydrophobic plastics material to render the surface hydrophilic comprises immobilising a coating of a mucopolysaccharide (I) on the surface of the plastics material by cross-linking and/or grafting. Pref. (I) is Na hyaluronate (Ia). In a claimed method (a) the substrate is coated with an aq. soln. of the (I), esp. with a 100 mil coating of a 0.5 % aq. soln. of (a); (b) drying the coating by applying a water-miscible solvent chosen from acetone, methyl alcohol, methyl ethyl ketone and ethyl alcohol, and (c) cross linking the coating by applying a soln. of catalysed organic-soluble aliphatic polyisocyanate, pref. Desmodur N (RTM) catalysed with dibutyl tin dilaurate. In a second claimed method (a) the plastic is coated with an aq. soln. of a (I) chosen from **hyaluronic acid** and chondroitin sulphate, and (b) the coating is cross linked and immobilised by contacting the coated plastic with an aq. soln. of a polyvalent salt chosen from BaCl₂, CaCl₂ and FeCl₃.

USE/ADVANTAGE - The process can be used to treat a wide range of plastics substrates such as e.g. polycarbonate, PMMA, polystyrene, polyformaldehyde, etc. which are e.g. in the form of contact lenses, bone and joint replacements, windshields for aircraft, cars and other vehicles, catheters, hypodermic needles, plastic intra-ocular lenses, etc.. The coatings are permanent and durable.

0/8

ABEQ GB 2163436 B UPAB: 930922

A method of treating a hydrophobic plastics material to render a surface thereof hydrophilic which comprises coating the surface with an aqueous solution of a mucopolysaccharide, drying said coating, and crosslinking said coating by reaction with a polyisocyanate.

ABEQ US 4801475 A UPAB: 930922

Hydrophilic coating of normally hydrophobic plastics comprises (a) coating

a plastic surface with aq. soln. of a mucopolysaccharide to form a wet film; (b) dehydrating water from soln. by applying a water-miscible solvent to ppte. mucopolysaccharide as a film into the surface and drying;

then (c) crosslinking and immobilising coating on the plastic by applying a soln. of catalysed organic-soluble aliphatic polyisocyanate.

Mucopolysaccharide comprises **sodium hyaluronate**.

Coating is 100 mm thick and is cast using acetone, methyl alcohol, methyl ethyl ketone, or ethyl alcohol as solvent, and Desmodur N as polyisocyanate.

ADVANTAGE - To add wettability and lubricity characteristics.

ABEQ US 4959074 A UPAB: 930922

An optically clear plastic having at least one exterior surface with a hydrophilic coating immobilised by crosslinking comprises a) a first coating of an aq. soln. of monopoly saccharide which is dried by applying a water-miscible solvent e.g. acetone, methyl alcohol, methylethyl lactone

and ethyl alcohol and (b) a second coating of a soln. of catalysed organic-soluble aliphatic polyisocyanate applied as crosslinker and

immobiliser.

USE/ADVANTAGE - For coating plastic contact lens, providing lubricity and uniform wetting characteristics.

ABEQ US 5023114 A UPAB: 930922

A method of interlaminar grafting of continuous coatings upon an object, the coatings being different and not mutually soluble, comprises (a) coating the object with a soln. of a polymer having functional gps. capable of chemically reacting with a mucopolysaccharide and manifesting

a high deg. of adhesion to the object; (b) removing solvent from the soln. to form a continuous film; (c) applying as a second coat an aq. soln. of

a mucopolysaccharide; removing water from the second coat to form a second continuous film; and (e) chemically joining the two films to effect an interlaminar graft in which both films retain their individual integrity.

USE/ADVANTAGE - For coating an optical lens, pref. a spectacle lens, or contact lens, orthopaedic bone substit., catheter, hypodermic, etc.

The

surfaces of the treated objects display wettability and lubricity uncharacteristic of such materials. The prods. display the desirable surface characteristics of soft materials, as well as the strength and modulus of the underlying structural plastic.

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ABEQ US 5037677 A UPAB: 930922

Method of interlaminar grafting of different, non-mutually soluble coatings on an object comprising (a) coating the object with a soln

contg.

acrylic polymer and a solvent, (b) removing the solvent forming a highly adhesive first film (i), (c) coating with aq. sodium hyaluronate soln., (d) removing H₂O to form a second film (ii), (e) heating (i) and (ii) to effect interlaminar grafting while both films retain individual integrity.

USE/ADVANTAGE - (I) may be used to coat plastics, metals, glass and wood and eg. prevent water condensn. collecting on vehicle windows. Interlaminar grafting of sodium hyaluronate onto an acrylic coated intra-ocular lens eliminates toxic effects and provides permanent lubrication. @